

AMENDMENTS TO THE CLAIMS

Presented below is a complete set of claims with current status indicators.

1. – 32. (canceled)

33. (new) A method comprising:
determining a respiratory cycle length;
determining an atrial overdrive pacing rate based on the respiratory cycle length,
wherein the atrial overdrive pacing rate is above an intrinsic atrial rate;
delivering a plurality of pacing pulses to an atrium at the atrial overdrive pacing
rate;
determining a plurality of atrioventricular conduction interval times based on the
plurality of pacing pulses;
determining a subsequent respiratory cycle length based on the plurality of
atrioventricular conduction interval times; and
adjusting the atrial overdrive pacing rate based on the subsequent respiratory
cycle length.

34. (new) The method of claim 33 further comprising comparing the
atrioventricular conduction intervals over a period of time encompassing a plurality of
respiratory cycles to detect an interval pattern indicative of either normal respiration or
abnormal respiration.

35. (new) The method of claim 34 wherein normal respiration is indicated by
a substantially cyclical interval pattern during the period of time.

36. (new) The method of claim 34 wherein abnormal respiration is indicated
by the absence of a substantially cyclical interval pattern during the period of time.

37. (new) The method of claim 34 wherein determining a subsequent
respiratory cycle length based on the plurality of atrioventricular conduction interval
times comprises:

noting the presence of a substantially cyclical interval pattern during the period of time; and

deriving the subsequent respiratory cycle length from the substantially cyclical interval pattern.

38. (new) An implantable cardiac stimulation system comprising:
- sensing circuitry operative to sense atrial and ventricular events; and
 - a processor connected to the sensing circuitry and operative to:
 - determine a respiratory cycle length;
 - determine an atrial overdrive pacing rate based on the respiratory cycle length, wherein the atrial overdrive pacing rate is above an intrinsic atrial rate;
 - deliver a plurality of pacing pulses to an atrium at the atrial overdrive pacing rate;
 - determine a plurality of atrioventricular conduction interval times based on the plurality of pacing pulses;
 - determine a subsequent respiratory cycle length based on the plurality of atrioventricular conduction interval times; and
 - adjust the atrial overdrive pacing rate based on the subsequent respiratory cycle length.